

**REMARKS**

Favorable reconsideration of this application, in light of the preceding amendments and following remarks, is respectfully requested. Claims 1-7 and 12-39 are pending in this application. By this Amendment, claims 1-7, 12-16, 20-22, 26-28, 32-34 and 38-39 are amended. By this Amendment, no claims are added or cancelled.

**Rejections under 35 U.S.C. § 101**

The Examiner has rejected claims 1-7, 12, 14, 16-21 and 28-33 under 35 U.S.C. § 101 because the Examiner alleges that the claimed invention is directed to non-statutory subject matter.

Without conceding to the Examiner's current position, Applicants have amended these claims to overcome this rejection. For example, claims 1-7 have been amended to recite "non-transitory computer readable medium", as suggested by the Examiner.

In regards to the method claims, Applicants have also amended independent claims 12 and 14 to recite "non-transitory computer readable medium." Applicants submit that method claims 12, 14, 16-21 and 28-33 fully comply with Section 101 for the reasons discussed below.

As the Examiner is likely aware, the United States Supreme Court (SCOTUS) recently issued a decision in *Bilski v. Kappos* which addresses the test for patent-eligible processes within the meaning of 35 U.S.C. § 101. The decision in *Bilski* overruled the Court of Appeals for the Federal Circuit (CAFC) regarding the machine or transformation test being the sole test for determining statutory subject matter under 35 U.S.C. § 101. In overruling the CAFC, the SCOTUS stated:

Section 101 specifies four independent categories of inventions or discoveries that are patent eligible: "process[es]," "machin[es]," "manufactur[es]," and "composition[s] of matter." "In choosing such expansive terms, . . . Congress plainly contemplated that the patent laws would be given wide scope," *Diamond v. Chakrabarty*, 447 U. S. 303, 308, in order to ensure that "'ingenuity should receive a liberal encouragement,'" *id.*, at 308–309. This Court's precedents provide three specific exceptions to §101's broad principles: "laws of nature, physical phenomena, and abstract ideas." *Id.*, at 309.

Clearly, the subject matter of claims 12, 14, 16-21 and 28-33 is not a law of nature or a physical phenomenon. Furthermore, Applicants assert that the subject matter of claims 12, 14, 16-21 and 28-33 is not an abstract idea as well.

On December 8, 2010, the Federal Circuit decided *Research Corp. Technologies, Inc. v. Microsoft Corp.*, Fed. Cir., No. 2010-1037, 12/8/10, in which the Federal Circuit provides guidance with regard to method claims and an abstract ideas.

In this case, the subject matter is a "process" for rendering a halftone image. As a process, the subject matter qualifies under both the categorical language of section 101 and the process definition in section 100. Therefore, this court proceeds to examine the Supreme Court's three exceptions. The parties do not dispute, and this court agrees, that the inventors do not purport to have invented laws of nature or physical phenomena. Therefore, this court turns to abstractness. Indeed, the Supreme Court in *Bilski* refocused this court's inquiry into processes on the question of whether the subject matter of the invention is abstract. **The Supreme Court did not presume to provide a rigid formula or definition for abstractness.** See, e.g., *Bilski*, 130 S.Ct. at 3236 (The Court has "never provide[d] a satisfying account of what constitutes an unpatentable abstract idea." (Stevens, J., concurring)). Instead, the Supreme Court invited this court to develop "other limiting criteria that further the purposes of the Patent Act and are not inconsistent with its text." *Id.* at 3231.

With that guidance, **this court also will not presume to define "abstract"** beyond the recognition that this disqualifying characteristic should exhibit itself so manifestly as to override the broad statutory categories of eligible subject matter and the statutory context that directs primary attention on the patentability criteria of the rest of the Patent Act. In that context, this court perceives nothing abstract in the subject matter of the processes claimed in the '310 and '228 patents. The '310 and '228 patents claim methods (statutory "processes") for rendering a halftone image of a digital image by comparing, pixel by pixel, the digital image against a blue noise mask. **The invention**

presents functional and palpable applications in the field of computer technology. These inventions address "a need in the art for a method of and apparatus for the halftone rendering of gray scale images in which a digital data processor is utilized in a simple and precise manner to accomplish the halftone rendering." '310 patent col.3 ll.33-40. The fact that some claims in the '310 and '228 patents require a "high contrast film," "a film printer," "a memory," and "printer and display devices" also confirm this court's holding that the invention is not abstract. Indeed, this court notes that inventions with specific applications or improvements to technologies in the marketplace are not likely to be so abstract that they override the statutory language and framework of the Patent Act.

This court also observes that the claimed methods incorporate algorithms and formulas that control the masks and halftoning. These algorithms and formulas, even though admittedly a significant part of the claimed combination, do not bring this invention **even close to abstractness that would override the statutory categories and context**. The Supreme Court has already made abundantly clear that inventions incorporating and relying upon even "a well known mathematical equation" do not lose eligibility because "several steps of the process [use that] mathematical equation." *Diehr*, 450 U.S. at 185. Indeed, the Supreme Court counseled in determining the eligibility of respondents' claimed process for patent protection under section 101, their claims must be considered as a whole. It is inappropriate to dissect the claims into old and new elements and then to ignore the presence of the old elements in the analysis. This is particularly true in a process claim because a new combination of steps may be patentable even though all the constituents of the combination were well known and in common use before the combination was made. *Id.* at 188. Borrowing from the reasoning of the Supreme Court in *Diehr*, this court observes that the patentees here "do not seek to patent a mathematical formula. Instead, they seek patent protection for a process of" halftoning in computer applications. *Id.* at 187. Moreover, because the inventions claimed in the '310 and '228 patents are directed to patent-eligible subject matter, the process claims at issue, which claim aspects and applications of the same subject matter, are also patent eligible.

In the context of the statute, this court notes that an invention which is not so manifestly abstract as to over-ride the statutory language of section 101 may nonetheless lack sufficient concrete disclosure to warrant a patent. In section 112, the Patent Act provides powerful tools to weed out claims that may present a vague or indefinite disclosure of the invention. Thus, a patent that presents a process sufficient to pass the coarse eligibility filter may nonetheless be invalid as indefinite because the invention would "not provide sufficient particularity and clarity to inform skilled artisans of the bounds of the claim." *Star Scientific., Inc. v. R.J. Reynolds Tobacco Co.*, 537 F.3d 1357, 1371 (Fed. Cir. 2008). That same subject matter might also be so

conceptual that the written description does not enable a person of ordinary skill in the art to replicate the process.

*Emphasis added.*

Clearly, the subject matter of claims 12, 14, 16-21 and 28-33 is not an abstract idea at least because these claims **do not exhibit itself** so manifestly as to override the broad statutory categories of eligible subject matter and the statutory context that directs primary attention on the patentability criteria of the rest of the Patent Act. Furthermore, the subject matter of these claims **presents functional and palpable applications** in the field of high density recording discs and their recording/reproducing devices.

The Applicants, therefore, respectfully request reconsideration and withdrawal of the rejection to claims 1-7, 12, 14, 16-21 and 28-33 under 35 U.S.C. § 101.

#### **Rejections under 35 U.S.C. § 103**

The Examiner has rejected claims 1, 2, 5, 7, 12-16, 19, 21-22, 25, 27-28, 31, 33-34, 37 and 39 under 35 U.S.C. § 103(a) as being unpatentable over Maruyama et al. (US Patent No. 6,385,389) in view of Mori et al. (US Publication No. 2002/0110369), and claims 3-4, 6, 17-18, 20, 23-24, 26, 29, 30, 32, 35-36 and 38 under 35 U.S.C. § 103(a) as being unpatentable over Maruyama in view of Mori, and further in view of Kato et al. (US Patent No. 7,477,833). Applicants respectfully traverse these rejections for the reasons detailed below.

Without conceding to the Examiner's current position, Applicants have amended independent claim 1 to further clarify its features. For example, claim 1 further recites "the playitem including a format indicator indicating a coding format of the first clip stream file, the playlist file including type information indicating whether or not the audio data associated with the sub-playitem is usable for the still images,

and the playlist file including first still information indicating whether to display at least one still image for one of a finite and an infinite period of time." None of the cited references illustrates these features for the reasons discussed below.

First, the data structures of Maruyama and Mori are different than the claimed invention. For example, Maruyama stores control information in a data area of the computer readable medium. The control information includes a video manager (VMG) and a number of Program Chains (PGCs). The VMG and PGCs are associated with older DVD art. FIG. 8 of Maruyama illustrates an example of how the older DVD data structure is stored on a conventional recording medium. Mori illustrates a data structure similar to Maruyama. For example, the audio zone region 32c of FIG. 3 of Mori stores audio management information such as an audio manager (AMG), which is used for older DVD art. In contrast, the claimed invention is directed to a specific data structure including a **playitem, sub-playitem and clip information file**. The terms "playitem", "sub-playitem" and "clip information file" are simply missing in these references. Therefore, Maruyama and Mori do not mention how to record or reproduce still images and audio data having the data structure as the claimed invention. Furthermore, although Kato uses the terms "clip information file" and "playlist file", Kato does not teach the use of the playitem, sub-playitem, and clip information files for managing the audio data and still images, as claimed in independent claim 1. Also, it would not be obvious to one of ordinary skill in the art to simply modify the data structure of Kato to include the AMG, VMG and/or PGC of Maruyama and Mori because their data structures are completely different, and would require substantial modifications.

Second, the cited references fail to teach "the playitem including a **format indicator** indicating a coding format of the first clip stream file", as required by claim

1. These references are silent in regards to a type of information that is included in a playitem that indicates the coding format of a stream file.

Third, the cited references fail to teach "the playlist file including type information indicating whether or not the audio data associated with the sub-playitem is usable for the still images", as required by claim 1. Maruyama and Mori merely teach audio data and still time. However, Maruyama and Mori do not teach any information to indicate whether or not the audio data associated with the sub-playitem is usable for the still images. Also, although Kato teaches a "subpath type," the subpath type of Kato is not related to the still image.

Fourth, the cited references fail to teach "the playlist file including first still information indicating whether to display at least one still image for one of a finite and an infinite period of time", as required by claim 1. Although Kato teaches a playlist file, Kato fails to teach any information related to the still image. Also, Maruyama and Mori, alone or in combination, fail to teach the relationship between the playlist file and the still information. The still time information of Mori is not included in the playitem. In contrast, in claim 1, the playitem indicates a timing interval, and a clip information file associated with the playitem.

Fifth, the cited references do not teach that the still image is reproduced independently from the audio data based on the playlist file, as required by claim 6. In the claimed invention, the type information indicates whether or not the audio data associated with the sub-playitem is usable for the still images. In such case, even though the audio data may be related to the still image, the claimed invention may be capable of operating the audio data and the still image independently because they are associated with the sub-playitem and playitem, respectively. However, Mori fails to teach any elements such as the sub-playitem and playitem. Therefore, the Mori cannot possibly suggest the above-identified features of claim 6.

Independent claims 12-15 have been amended to include features similar to independent claim 1, and therefore are patentable for at least the same reasons stated above. The dependent claims, dependent on claims 1 and 12-15, are patentable for at least the same reasons stated above. As such, Applicants respectfully request that these rejections be withdrawn.

**CONCLUSION**

In view of the above remarks and amendments, the Applicants respectfully submit that each of the pending objections and rejections has been addressed and overcome, placing the present application in condition for allowance. A notice to that effect is respectfully requested. If the Examiner believes that personal communication will expedite prosecution of this application, the Examiner is invited to contact the undersigned.

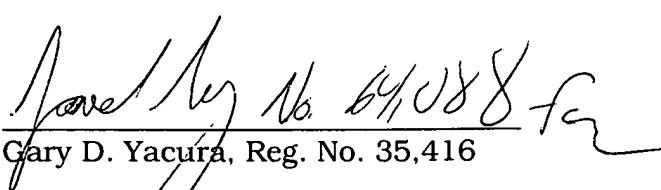
Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact the undersigned, at the telephone number of the undersigned below.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 08-0750 for any additional fees required under 37 C.F.R. § 1.16 or under 37 C.F.R. § 1.17; particularly, extension of time fees.

Respectfully submitted,

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